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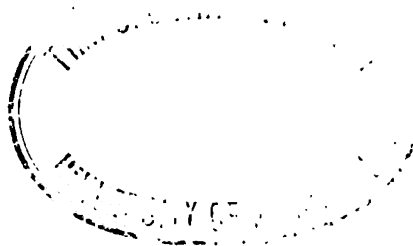
THE INDUSTRIAL ARTS INDEX

FOURTH ANNUAL CUMULATION

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING
AND TRADE PERIODICALS FOR 1916

EDITED BY

MARION E. POTTER, LOUISE D. TEICH
AND HELEN M. CRAIG



THE H. W. WILSON COMPANY
WHITE PLAINS, N. Y. and NEW YORK CITY
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Industrial Arts Index

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Full information in regard to subscription price will be supplied on request.

The subscription price of the Scientific American has been advanced to \$4.00 a year, and that of Factory to \$3.00 a year.

Good Roads also announces an advance in price to \$3.00, and hereafter the weekly issues will be uniform in size, carrying technical matter, as well as contract and general news.

Gas Age has been added to the list of periodicals indexed, the numbers from July 1, 1916, beginning volume 38, having been indexed for this volume. We regret to say, however, that volume 10 of the Proceedings of the American Gas Institute was received too late to be included. It will be indexed in an early number of 1917.

The Building Age, founded under the name of Carpentry and Building, by David Williams, in January, 1879, has passed to the control of the American Architect, 50 Union Square, New York. It will continue as a separate publication, devoted to the same field as heretofore, and there will be no material change in the editorial policy.

Industrial Management is the new and more descriptive name which has been chosen as the main title of the Engineering Magazine. A pioneer in the science of industrial management, it has for more than twenty-five years published authoritative literature on the subject. As the science itself was largely developed by members of the engineering profession, the publication was addressed specifically to that profession, but changing conditions have opened up a broader field. Industrial managers in all lines of work are becoming interested in the various phases of the science of management, and a more comprehensive title was needed to indicate the scope of the Engineering Magazine.

Is Indexing Worth a Free Copy?

It is with regret that we announce that the publishers of the Engineering and Mining Journal are no longer willing to send us copies of their Journal for indexing. The Mining World, which received a large number of votes from librarians when our original referendum was taken, will be added to the list of magazines indexed, and possibly the Mining Press also will be included later. There is no doubt that the mining field will be well represented.

It seems to us eminently fair that the publishers of periodicals should share with libraries the expense of indexing; an index adds much to the value of periodicals and it is their publishers who reap the pecuniary benefit in increased subscriptions. Some publishers have recognized this fact and have offered to pay for having their magazines included in our indexes. We could not, of course, accept this offer, as it would be unfair to accept payment from some publishers, without requiring it of others. We have, however, required that free copies should be furnished us for indexing, a trifling return, it seems to us, for the great service that is rendered the publishers. This policy was adopted in the interests of and with the approval of our subscribers. To forsake this policy and to pay subscriptions to all the magazines indexed would necessitate an increase in the price of the Index to libraries. We trust that this will not be necessary. It may be added that publishers have, for the most part, supplied copies of their magazines very willingly. Perhaps subscribers who wish very much to have the Engineering and Mining Journal retained on the Industrial Arts list may be able to influence its publishers to reconsider their decision.

New Technical and Industrial Books

It has been suggested that The H. W. Wilson Company undertake the publication of a periodical list of new technical and industrial books. This would be in the form of a four-page leaflet, to be issued quarterly. Mr. Ed-

NOTES AND ANNOUNCEMENTS

ward S. Stevens, Director and Librarian of the Pratt Institute Free Library, who suggested the publication of such a list, has generously proposed that the editorial work be done by the Applied Science Reference Department of Pratt Library and at no charge but merely for the good of the cause. He discusses the plans for the list as follows:

"It is a very simple proposition. To recommend current technical books for the smaller libraries to purchase and to provide leaflets for distribution at those libraries so that the books may be brought to the notice of the public. By brief annotations the character and scope of each book listed would be evident to the library buying and the reader borrowing. The selection of these books would be guided by the requirements of the average town library not specializing in technology. The books recommended would be such that every library ordering the leaflet should buy all the books named. Here and there a book might be omitted if not appealing to the public of that locality, but that need not affect the usefulness of the list in that place as the inappropriate book would not be asked for. In any event,

such a special book would be available by borrowing from another library to meet an unusual need. The direct and non-mathematical manual for the worker would be favored in the selection over the advanced treatise for the engineer. Highly technical books would not be included."

The H. W. Wilson Company will be willing to undertake the printing and distribution of these four-page leaflets if a subscription of 10,000 copies can be secured. This would be equivalent to 100 subscribers for 100 copies each or 50 subscribers averaging 200 copies each. If this number of subscribers can be secured an annual subscription rate can be made of \$2 a year for 100 copies each quarter. The minimum subscriptions taken will be for 50 copies for one year at \$1; a library ordering 500 copies at \$10 may have its own imprint without additional charge.

In case the publishing of this list is undertaken it would be desirable to issue the first number early in the new year. If libraries interested in this plan will notify us promptly of about how much support we may expect from them, it will enable us to formulate our plans.

List of Periodicals Indexed

- Am Chem Soc J**—Journal of the American Chemical Society. \$6. Charles L. Parsons, sec., Box 505, Washington, D. C.
- Am For**—American Forestry. \$3; single numbers 25c. American Forestry Assn., 1410 H St. N. W., Washington, D. C.
- Am Gas Inst Pro**—Proceedings of the American Gas Institute, tenth annual meeting, 1915. \$7.50 to libraries. American Gas Institute, 29 W 39th St, New York.
Not received in time for indexing in this number.
- Am Gas Light J**—American Gas Light Journal. \$3; single numbers 10c. American Gas Light Journal, 42 Pine St, New York.
- Am Ind**—American Industries. \$1; single numbers 10c. National Manufacturers Co., 30 Church St, New York.
- Am Inst Arch J**—Journal of the American Institute of Architects. \$3.50; single numbers 35c. American Institute of Architects, The Octagon, Washington, D. C.
- Am Inst E E Pro**—American Institute of Electrical Engineers. Proceedings. \$10; single numbers \$1. F. L. Hutchinson, sec., 33 W 39th St, New York.
- Am Inst Min E Bul**—Bulletin of the American Institute of Mining Engineers. subs. \$10; single numbers \$1; to members, public libraries, and educational institutions, \$5; single numbers 50c. B. Stoughton, sec., 29 W 39th St, New York.
- Am Soc Heat & V E**—Transactions of the American Society of Heating and Ventilating Engineers. American Society of Heating and Ventilating Engineers, 29 W 39th St, New York.
- Am Soc M E J**—Journal of the American Society of Mechanical Engineers. \$3; single numbers 35c. American Society of Mechanical Engineers, 29 W 39th St, New York.
- Am Water Works Assn J**—Journal of the American Water Works Association. American Water Works Assn., 2419 Greenmount Av, Baltimore, Md.
- Arch & Bldg**—Architecture and Building. \$2.50; single numbers 25c. William T. Comstock Co., 23 Warren St, New York.
- Arch Rec**—Architectural Record. \$3; single numbers 35c. Architectural Record Co., 115 W 40th St, New York.
- Automobile**—Automobile. \$3; single numbers 10c. Class Journal Co., 231 W 39th St, New York.
- Bldg Age**—Building Age. \$2; single numbers 20c. Am. Architect, Inc., 50 Union Square, New York.
- Boston Soc C E J**—Journal of the Boston Society of Civil Engineers. \$4 (ten numbers); single numbers 50c. Boston Society of Civil Engineers, 715 Tremont Temple, Boston.
- Brickb**—Brickbuilder. \$5; single numbers 50c. Rogers & Manson Co., 85 Water St, Boston.
- Coal Age**—Coal Age. \$3; single numbers 10c. Hill Pub. Co., 10th Av at 36th St, New York.
- Colliery**—Colliery Engineer. \$2; single numbers 25c. Hill Pub Co., 10th Av at 36th St, New York.
Consolidated with Coal Age on Nov. 6.
- Concrete**—Concrete. \$2; single numbers 20c. Concrete-Cement Age Pub. Co., Telegraph Bldg., Detroit, Mich.
Formerly published as Concrete-Cement Age.
- Concrete Cem**—See Concrete.
- Dom Eng**—Domestic Engineering. \$2; single numbers 10c. Domestic Engineering Co., 407 S Dearborn St, Chicago.
- Econ Geol**—Economic Geology. \$3; single numbers 50c. Economic Geology Pub. Co., 41 North Queen St, Lancaster, Pa.
- Elec Ry J**—Electric Railway Journal. \$3; single numbers 10c. McGraw Pub. Co., 239 W 39th St, New York.
- Elec R & W Elec'n**—Electrical Review and Western Electrician. \$3; single numbers 10c. Electrical Review Pub. Co., 608 S Dearborn St, Chicago.
- Elec W**—Electrical World. \$3 single numbers 10c. McGraw Pub Co., 239 W 39th St, New York.
- Engineer**—Engineer. Thick paper ed £2 6d; Canadian subs £1 16s; thin paper ed £1 16s; Canadian subs £1 11s 6d. Engineer, 33 Norfolk St, Strand, London, W. C.
- Eng & Contr**—Engineering and Contracting. \$3. Myron C. Clark Pub. Co., 608 S Dearborn St, Chicago.
- Eng & Min J**—Engineering and Mining Journal. \$5; single numbers 15c. Hill Pub. Co., 10th Av at 36th St, New York.
- Eng M**—Engineering Magazine. \$3; single numbers 25c. Engineering Magazine Co., 140 Nassau St, New York.
Continued as Industrial Management.
- Eng N**—Engineering News. \$5; single numbers 15c. Hill Pub. Co., 10th Av at 36th St, New York.
- Eng Rec**—Engineering Record. \$5; single numbers 15c. McGraw Pub. Co., 239 W 39th St, New York.
- Eng Soc W Pa**—Proceedings of the Engineers' Society of Western Pennsylvania. \$5; single numbers 50c. Engineers' Society of Western Pennsylvania, 2511 Oliver Bldg, Pittsburgh, Pa.
- Factory**—Factory. \$3. A. W. Shaw Co., Wabash Av & Madison St, Chicago.
- Foundry**—Foundry. \$1; single numbers 15c. Penton Pub. Co., Penton Bldg, Cleveland, O.
- Gas Age**—Gas Age. \$3. Progressive Age Pub. Co., 52 Vanderbilt Av, New York.
Indexed from July 1, 1916.
Formerly Progressive Age.
- Gen Elec R**—General Electric Review. \$2; single numbers 20c. General Electric Co., Schenectady, N. Y.
- Good Roads n s**—Good Roads new series. \$2; single numbers 5c except first numbers of each month 10c. E. L. Powers Co., 150 Nassau St, New York.
To be advanced to \$3; with uniform weekly numbers.
- Heat & Ven**—Heating and Ventilating Magazine. \$1; single numbers 10c. Heating & Ventilating Magazine Co., 1123 Broadway, New York.
- Horseless Age**—Horseless Age. \$2; single numbers 10c. Horseless Age Co., 95 Madison Av, New York.
- Ill U Eng Exp Sta Bul**—Illinois University Engineering Experiment Station. Bulletin. Univ. of Ill., Urbana.
- Illum Engr**—Illuminating Engineer. 10s 6d; single numbers 1s. Illuminating Engineering Pub. Co., 32 Victoria St, London, S. W.
- Illum Eng Soc**—Transactions of the Illuminating Engineering Society. \$5; single numbers 75c. Illuminating Engineering Soc., 29 W 39th St, New York.
- Ind Management**—Industrial Management. \$3; single numbers 25c. Industrial Management, 140 Nassau St, New York.
Formerly Engineering Magazine.

LIST OF PERIODICALS INDEXED

- Inland Ptr**—Inland Printer. \$3; single numbers 30c. Inland Printer Co., 632 Sherman St, Chicago.
- Inst E E J**—Journal of the Institution of Electrical Engineers. single numbers 7s. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W.; Spon & Chamberlain, 123 Liberty St, New York.
Published monthly since March 1. The last fortnightly part (no. 257) was dated 1 March, 1916, price 3s 6d.
- Int Marine Eng**—International Marine Engineering. \$2. Aldrich Pub. Co., Printing Crafts Bldg., 461 8th Av, New York.
- Iron Age**—Iron Age. \$5; single numbers 20c. David Williams Co., 239 W 39th St, New York.
- Iron Tr R**—Iron Trade Review. \$4; single numbers 15c. Penton Pub. Co., Penton Bldg., Cleveland, O.
- J Account**—Journal of Accountancy. \$3; single numbers 30c. Ronald Press Co., 20 Vesey St, New York.
- J Fr Inst**—Journal of the Franklin Institute. \$5; single numbers 50c. Franklin Institute, Philadelphia.
- J Ind & Eng Chem**—Journal of Industrial and Engineering Chemistry. \$6. American Chemical Society, Easton, Pa.
- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach**—Machinery. Engineering edition \$2; coated pa. \$2.50; single numbers 20c. Industrial Press, 140 Lafayette St, New York.
- Met & Chem Eng**—Metallurgical and Chemical Engineering. \$3; single numbers 25c. McGraw Pub. Co., 239 W 39th St, New York.
- Metal Ind n s**—Metal Industry new series. \$1; single numbers 10c. Metal Industry, 99 John St, New York.
- Metal Work**—Metal Worker, Plumber & Steam Fitter. \$2; single numbers 10c. Am. Architect, Inc., 50 Union Square, New York.
- Minn U Bul**—University of Minnesota. Studies in engineering. Univ. of Minn., Minneapolis
No numbers published in 1916.
- Munic Eng**—Municipal Engineering. \$2; single numbers 25c. Engineering Pub. Co., 702 Wulsin Bldg, Indianapolis, Ind.
- Munic J**—Municipal Journal. \$3; single numbers 10c; special numbers 25c. Municipal Journal and Engineer, Inc., 50 Union Square, New York.
- Power**—Power. \$2; single numbers 5c. Hill Pub. Co., 10th Av at 36th St, New York.
- Ry Age**—Railway Age Gazette. \$5; single numbers 15c. Simmons-Boardman Pub. Co., Woolworth Bldg, New York.
- Ry Age (Mech ed)**—Railway Age Gazette, mechanical edition including the American Engineer. \$2; single numbers 20c. Simmons-Boardman Pub. Co., Woolworth Bldg, New York.
Now published as Railway Mechanical Engineer.
- Ry Mech Eng**—Railway Mechanical Engineer including the American Engineer. \$2; single numbers 20c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette, Mechanical edition.
- Ry R**—Railway Review. \$4; single numbers 15c. Railway Review, 537 S Dearborn St, Chicago; 30 Church St, New York.
Formerly Railway and Engineering Review.
- Sci Am**—Scientific American. \$4; single numbers 10c. Munn & Co., 233 Broadway, New York.
- Sci Am S**—Scientific American Supplement. \$5; single numbers 10c. Munn & Co., 233 Broadway, New York.
- Sibley J**—Sibley Journal of Engineering. \$2; single numbers 20c. Sibley College, Cornell Univ., Ithaca, N. Y.
- Stevens Ind**—Stevens Indicator. \$1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N. J.
- Textile World**—Textile World Journal. \$3 Bragdon, Lord & Nagle Co., 461 8th Av at 34th St, New York.
Formerly published as Textile World Record, monthly at \$2
- U S Agric Bul**—United States. Dept. of Agriculture. Bulletin. Distributed free of charge. U. S. Dept. of Agriculture, Division of Publications, Washington, D. C.
Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed.
- U S Bur For & Dom Com**—United States. Bureau of Foreign and Domestic Commerce. Special agents series. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- U S Bur Mines Bul**—United States. Bureau of Mines. Bulletin. Distributed free of charge. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Mines Circ**—United States. Bureau of Mines. Miners' circular. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Mines Tech Pa**—United States. Bureau of Mines. Technical paper. U. S. Bureau of Mines, Washington, D. C.
- U S Bur Stand Bul**—United States. Bureau of Standards. Bulletin. Gratis to educational and scientific institutions and to government depositories. U. S. Bureau of Standards, Washington, D. C.
Sold to individuals by the Superintendent of Documents. \$1; single numbers 25c.
- U S Bur Stand Circ**—United States. Bureau of Standards. Circular. U. S. Bureau of Standards, Washington, D. C.
- U S Bur Stand Tech Pa**—United States. Bureau of Standards. Technologic papers. U. S. Bureau of Standards, Washington, D. C.
- U S Sp Cons Rep**—United States. Special consular reports. U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C.
- W Soc E J**—Journal of the Western Society of Engineers. \$3; single numbers 50c. Western Society of Engineers, 1735 Monadnock Bldg, Chicago.
- Wis U Bul Eng S**—Bulletin of the University of Wisconsin, Engineering Series. Univ. of Wis., Madison.

Explanations

Book reviews in the Electrical World, Engineering News, and Engineering Record are indexed in the Book Review Digest.

The abbreviations used are bibliog bibliography; cond condensed; cont continued; diag diagram; il illustrated; por portrait; tr translated or translation or translator. A colon after an initial designates the most usual given name, as A: Augustus; B: Benjamin; C: Charles; D: David; E: Edward; F: Frederick; G: George; H: Henry; I: Isaac; J: John; L: Louis; N: Nicholas; P: Peter; R: Richard; S: Samuel; T: Thomas; V: Victor; W: William.

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- Abbreviations**
Conference on abbreviations and terminology. Am Soc M E J 38:319-20 Ap '16
Standards for abbreviations. Am Soc M E J 38:560-1 Jl '16
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- Abderhalden, Emil, 1877-**
Abderhalden's new studies of the ductless glands. Sci Am 115:123 Ag 5 '16
- Aberdeen, Scotland**
Water supply
Water supply of Aberdeen. Il diag plan maps Engineer 121:515-17, 524 Je 23 '16
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New gravity water-supply for Aberdeen. Il Eng N 75:603 Mr 30 '16
- Ability**
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- Ability tests**
Selecting men for jobs. H. Schneider. Eng M 51:420-31 Je '16
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Testing the fitness of your employees. W. F. Kemble. Il Ind Management 52:149-64 N '16
- Ablain St. Nazaire, France**
Ruins of Ablain St. Nazaire. J. P. Alaux. Il Am Inst Arch J 3:516-17 D '15
- Abrasives**
Aluminous abrasives from waste garnet: patented by J. Davenport. diag Met & Chem Eng 15:359-60 S 15 '16
Grading industries; abrasive grains and products. E. S. Wiard. Met & Chem Eng 14:575-8 My 15 '16
See also Grinding and polishing; Pebbles
- Absorbent cotton.** See Cotton, Absorbent
- Abutments.** See Bridges—Abutments
- Academic degrees.** See Degrees, Academic
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French academy prizes. Sci Am S 82:323 N 18 '16
- Acceptances**
Trade acceptances. S. Walton. J Account 22: 58-62 Jl '16
Trade acceptances from a mercantile viewpoint. K. R. Hooker. Textile World 51:3892+ S 9 '16
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- Accident prevention.** See Safety devices and measures
- Accidents**
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- Accidents, Industrial**
Accidents at metallurgical works in the United States during the calendar years 1913 and 1914. A. H. Fay. U S Bur Mines Tech Pa 124:1-27 '15
Accidents that could have been prevented. Am Ind 16:25 F '16
Bonehead acts of workmen. Il Eng M 51:442-3 Je '16
Conditions of industrial accidents. Sci Am S 80:398 D 18 '15
Illumination and one year's accidents; with discussion. R. E. Simpson. Illum Eng Soc 10:868-82 no 9 '15
Quarry accidents in the United States during the calendar year 1914. A. H. Fay. U S Bur Mines Tech Pa 128:1-43 '15
Report of California industrial accident commission. Eng & Min J 101:208-9 Ja 29 '16
Two instructive accidents from chemical engineering practice. J. W. Rupert. diag Met & Chem Eng 14:66-7 Ja 15 '16
See also Boiler explosions; Coal mines and mining—Accidents and explosions; Coke ovens—Accidents; Electricity, Injuries from; Explosions; First aid in illness and injury; Metallurgical plants—Accidents; Mine accidents; Mining engineering—Safety measures; Railroads—Accidents; Safety devices and measures; Workmen's compensation
- Accidents at sea.** See Safety at sea
- Accountancy boards**
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- Accountants**
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- Accountants, Public**
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What is a certified public accountant? W. P. Musaus. J Account 20:433-50 D '15
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- Law**
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- Accountants in the United States of America, Institute of.** See Institute of accountants in the United States of America
- Accounting**
Accounting and business procedure as applied to the construction of large irrigation projects. C. E. Bee. Eng & Contr 45:269-74 Mr 22 '16
Accounting and modern industry. J. R. Wildman. Elec Ry J 48:793-5 O 14 '16
Accounting at Pasadena plant. L. R. W. Allison. Power 44:413-14 S 19 '16

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- Accounting for the contractor. B: L. Lathrop. Eng Rec 73:685, 717-18, 750, 782, 811, 843; 74:25-6, 57-8, 89-90, 119-20 My 20-Jl 22 '16
- Accounting problems in the cane sugar industry. J. B. Keyes. J Account 22:35-42 Jl '16
- Accounting procedure for state universities. W: B. Castenholz. J Account 21:81-92, 167-75 F-Mr '16
- Classification and certification of profits. J: R. Lynn. J Account 21:255-60 Ap '16
- Contractors' accounts. T. E. Ross. J Account 21:161-6 Mr '16
- Designing of accounting systems. E. E. Staub. J Account 20:430-7 D '15
- Field-office accounting. B: L. Lathrop. Eng Rec 74:150, 181-2, 211, 242 Jl 29-Ag 19 '16
- Fundamentals of investment securities accounting. E. H. Griswold. J Account 22:338-42 N '16
- Industrial accounting. F. J. Knoepfel. J Account 21:431-40; 22:16-27, 90-100, 177-86, 245-52, 353-60, 417-32 Je-D '16
- Inter-branch accounts. S. Walton. J Account 21:470-3 Je '16
- Loose leaf accounting for state secretaries of master plumbers' associations. Metal Work 85:610-11 My '16
- Office methods for a small contracting business. C. M. Cobb. Eng & Contr 45:317-21 Ap 5 '16
- Principles of depreciation accounting. R. G. Klotz. Ind Management 52:164-76 N '16
- Rational plant units for depreciation accounting. R. G. Klotz. Eng N 75:23-4 Ja 6 '16
- Salmon industry accounting. E. J. Miner. J Account 22:361-78 N '16
- Stores accounting. W. A. Sauer. Am Gas Light J 104:214-17 My 15 '16
- System of accounts for country clubs. E: T. Krach. J Account 22:270-87 O '16
- System of accounts for retail merchants. U S Fed Tr Comm 19p Jl 15 '16; Same. Dom Eng 76:359-61, 393-5 S 9-16 '16; Same. Metal Work 86:564-6, 622-5 N 3, 17 '16
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- Accounting, Municipal.** See Municipal accounting
- Accumulators.** See Storage batteries
- Acetates**
- Acetyl derivatives of the sugars. C. S. Hudson. J Ind & Eng Chem 8:380-2 Ap '16
- Isomeric tetracetates of xylose, and observations regarding the acetates of melibiose, trehalose, and sucrose. C. S. Hudson and J. M. Johnson. Am Chem Soc J 37:2748-53 D '15
- Acetic acid**
- Industrial alcohol, acetone, acetic acid; discussion. J Ind & Eng Chem 8:954-8 O '16
- Acetone**
- Determination of acetone in systems of methyl alcohol, water and potassium fluoride. G. B. Frankforter and L. Cohen. Am Chem Soc J 38:1136-41 My '16
- Industrial alcohol, acetone, acetic acid; discussion. J Ind & Eng Chem 8:954-8 O '16
- Acetylene**
- Action of acetylene on metals. Sci Am S 81:11 Ja 1 '16
- Colorimetric determination of acetylene. E. R. Weaver. Am Chem Soc J 38:352-61 F '16
- Explosibility of acetylene. G: A. Burrell and G. G. Oberfell. U S Bur Mines Tech Pa 112:1-12 '15; Excerpt. Eng & Min J 101:10 Ja 1 '16
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Acetylene lamps

- Acetylene-lamp improvements. Il diags Eng & Min J 102:794-3 O 28 '16
- Carbic system of lighting. Il Munic Eng 49: 240-1 D '15; Eng & Contr 45:26 Ja 5 '16; Munic J 41:438 O 5 '16
- Carbide candle instead of kerosene in oil lamps. Il Sci Am 114:359 Ap 1 '16
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- Convenient lamp for tunnel inspections. G. R. Thayer. Il Elec Ry J 48:1117 N 25 '16
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- 9th annual meeting, New York, Dec. 1. Il Textile World 51:23+ D 4 '15

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- 28th annual convention, Cleveland, June 19-20. Iron Age 97:1502-3 Je 22 '16; Iron Tr R 58:1365-6 Je 22 '16; Power 44:36-7 J1 4 '16

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- New members and managers elected. Int Marine Eng 21:478 O '16
 Reorganization. Int Marine Eng 21:251-2 My '16

American can company

- Decision of Judge Rose in the district court of the United States, district of Maryland. Iron Tr R 58:502-4 Mr 2 '16; Ry R 58:405-7 Mr 18 '16

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- Abstracts of discussions at the 53d meeting, New York. J Ind & Eng Chem 8:947-68 O '16
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- Abstracts of papers at third annual convention, Philadelphia, June 9-10. Iron Age 97:1446-51 Je 15 '16; Am Soc M E J 38:670 Ag '16

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- Amendments to the constitution. W. F. Ham; J. H. Drew. Elec Ry J 47:366-7 F 19 '16
 Committee appointments for 1915-1916. Elec Ry J 47:129-31 Ja 15 '16
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 President's address. C. L. Henry. Elec Ry J 48:756-61 O 14 '16
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Report of the papers presented at the meeting of the New York section, Feb. 11. Met & Chem Eng 14:259-65 Mr 1 '16

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33d annual convention, Cleveland, June 27-30; abstracts of papers and of discussions. Elec R & W Elec'n 69:4-6, 52-4 Jl 1-8 '16; Elec W 68:4-5, 71-6 Jl 1-8 '16

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American engineers enter the foreign field. Eng M 50:674-81 F '16

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Convention, Pittsburgh, May 24-26. Iron Age 97:1314-16 Je 1 '16

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Coöperation, the basis of safety, efficiency and conservation, in the use of national mineral resources. C. Scholz. Coal Age 10:839-40 N 18 '16

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Annual meeting, Cleveland, Feb. 18. Iron Tr R 58:444-6 F 24 '16

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44th annual convention, Cincinnati. Eng N 76:858 N 2 '16

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Review. *Ry R* 58:445-6 Mr 25 '16

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45th annual convention, Atlantic City, June 19. *Ry R* 58:923-40 Je 24 '16

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13th annual convention, Pittsburgh, Feb. 29-Mar. 3. *Eng N* 75:482-3 Mr 9 '16; *Munic J* 40:347 Mr 9 '16

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Report for 1915. *Eng & Min J* 101:577-8 Mr 25 '16

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Proposed plan for the activities of the machine shop practice sub-committee. H. K. Hathaway. *Am Soc M E J* 38:972 D '16

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Affairs of the Wood preservers' association; annual address of the president. J. H. Watterman. Ry R 58:146-7 Ja 22 '16
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Brick. See Bricks**Brick construction**

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- Making the earthwork approach to Columbia river bridge. E. E. Howard. *Il diag Eng N* 75:145-9 Ja 27 '16

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- Holler shoe for bridges prevents tipping. *diags Eng N* 76:647-8 O 5 '16

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- Bascule bridge of short span over the Ecorse river. *Il diags Eng N* 75:260-1 F 10 '16
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- Bridge carrying highway and irrigation flume. *diags Eng N* 75:735 Ap 20 '16
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- Design of a railway pontoon bridge. H. J. Hansen. pls W Soc E J 21:7-25; Discussion. 25-32 Ja '16
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- Full-load secondaries were eliminated at Quebec. J. Mayer. Eng N 76:517 S 14 '16
- Great variety in design reduces cost of new Portland harbor bridge. il diags Eng Rec 73:319-22 Mr 4 '16
- High masonry arch viaduct in France designed as a two-level structure. il diags Eng Rec 72:768 D 18 '15
- Highest arch highway viaduct of striking appearance economically constructed. il diags Eng Rec 73:210-12 F 12 '16
- Hopple street viaduct, Cincinnati, is built with cantilever beams of arch form. E. K. Ruth. il diags Eng Rec 74:381-4 S 23 '16
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- K-truss bridge of Santa Fe across Arkansas river. diags Eng N 76:104-6 JI 20 '16
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- New type of bridge for ditch crossings. diag Concrete 9:59 Ag '16
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- Standard pony-truss bridges for Michigan highway. C. V. Dewart. il diag Eng N 76:990 N 23 '16
- Steel cantilever ribs balanced over main piers to form arched concrete spans. il diags Eng Rec 73:677-9 My 20 '16
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- Bridge failures**
- Accident to the Quebec bridge. diags Engineer 122:322 O 13 '16
- Another Quebec bridge disaster. Eng Rec 74:338-9 S 16 '16
- Breakage of casting of rocker-joint bearing responsible for Quebec bridge disaster. il diags Eng Rec 74:370-1 S 23 '16
- Bridge failure in Spokane. il Elec Ry J 47:163-4 Ja 22 '16
- Bridge washouts in the desert. il Eng N 75:873-4 My 11 '16
- Careless work causes concrete bridge failure at Independence, Ore. il Eng N 76:672 O 5 '16
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- Collapse of bridge at Spokane not yet explained. il diag Eng N 75:92-3 Ja 13 '16
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- Computing the stresses in the Quebec rocker casting. diags Eng N 76:650-3 O 5 '16
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- Eye-bar failure at low stress causes bridge collapse in Spokane. Eng N 74:1289-90 D 30 '15
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- Further light on the Quebec bridge disaster. il diag Sci Am 115:298-9+ S 30 '16
- Kansas river bridge falsework collapse. il Eng N 75:245 F 3 '16
- Overturning stringers cause highway-bridge failure. D. A. Thomas. il Eng N 76:455 S 7 '16
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- Connecticut company bridge records. W. R. Dunham, Jr. *Elec Ry J* 47:412-13 F 26 '16
 Painting and maintaining steel highway bridges. G. Hogarth. *Eng & Contr* 45:373-5 Ap 19 '16

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- Bridge spans moved bodily to a new site. *Il Eng Rec* 72:751 D 18 '15
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- Painting and maintaining steel highway bridges. G. Hogarth. *Eng & Contr* 45:373-5 Ap 19 '16
 Red-lead finishing coats. *Eng N* 75:995-6 My 25 '16

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- Raising a three-span bridge under traffic. *Il diags Ry Age* 60:318-20 F 18 '16
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 Raising three single track, 240-ft., pin connected truss bridge spans 6 ft. under traffic. *Il diags Eng & Contr* 46:84-5 Jl 26 '16
 Rigid jacking hitch made with pin slings for raising bridge. R. C. Hardman. *Il Eng Rec* 73:493 Ap 8 '16
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- Bridge building in the shop; how the gigantic members of the Quebec bridge are fabricated. *Il Sci Am* 115:192-3 Ag 26 '16

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- Bridge building in New Zealand. O. Johnson. *Il Sci Am S* 82:152-3 S 2 '16
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- Building concrete forms for small bridge abutments and piers. J. C. Worrell. *Eng & Contr* 46:38-4 Jl 26 '16
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- Cost and details of construction of a steel highway bridge, McLennan co., Tex. W. C. Davidson. *Il diags Eng & Contr* 46:365-8 O 25 '16
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 Fishing for 60-ft. girders washed out in flood. E. D. Clabaugh. *Il Eng N* 75:1189-90 Je 22 '16
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- Building a plate-girder bridge with a locomotive crane at Miamisburg, Ohio. *Il Eng N* 74:1179-80 D 16 '15
 Details of travelers and jacks used in erection of Hell Gate arch span. C. S. Whitney. *Eng & Contr* 45:35 Ja 12 '16
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 Difficult falsework erection for 242-ft. concrete arch over Pit river. *Il diags Eng N* 75:50-1 Ja 13 '16
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- Erecting long plate girders by tower traveler. II Eng N 75:370-2 F 24 '16
- Erection of an arch on suspended centering of reinforced concrete. II diags Engineer 121: 132, 134 F 11 '16; Same cond. Eng Rec 73: 389-90 Mr 18 '16
- Erection of Old Trails bridge over Colorado river. J. A. Sourwine. II diags Eng N 75: 1040-3 Je 1 '16
- Erection of Quebec bridge—programme for season 1916. diags Engineer 121:496-7 Je 16 '16
- Erection of Quebec bridge suspended span. A. J. Meyers. II diag Eng N 76:522-4 S 14 '16
- Erection of the south cantilever arm of the new Quebec bridge. diags Engineer 122: 363-4, 387-8 O 27-N 3 '16
- Erection of the suspended span new Quebec bridge. G. V. Davies and N. C. McMath. II diag Eng & Contr 46:276-8 S 27 '16
- Erection progress on the Quebec bridge. A. J. Meyers. II diags Ry Age 61:276-7 Ag 18 '16
- Erection progress on the Quebec bridge. H. P. Borden. Eng & Contr 45:196-7 F 23 '16
- Four-span railway bridge over Deerfield river rolled into place. II diag Eng N 75:840-1 My 4 '16
- Frames on flat cars erect railroad girder bridges. C. L. Ketcham. II Eng Rec 73:622 My 6 '16
- Further light on the Quebec bridge disaster. II diags Sci Am 115:298-9+ S 30 '16
- Girder bridge replaces truss over fast express tracks. II diags Eng Rec 73:383-4 Mr 18 '16
- Hell Gate bridge built by aid of telephones. II Elec R & W Elec'n 67:1158-9 D 25 '15
- Hell Gate bridge, New York. II diags map Engineer 120:495-7 N 26 '15
- Methods and equipment used in erection of Hell Gate arch over East river, New York city. W. J. Parsons. II diag Eng & Contr 45: 77-80 Ja 26 '16
- Moving and placing American railway draw-bridges by means of barges. II diag Engineer 120:520-1, 530 D 3 '15
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- Quebec suspended-span hoisting details completed. A. J. Meyers. II diags Eng N 76:420-5 Ag 31 '16
- Replacing timber bridge with steel-girder spans. II Eng N 75:994-5 My 25 '16
- Revolutionary methods used to float and hoist center span of Quebec bridge. II diags Eng Rec 74:372-6 S 23 '16
- Season's work on the Quebec bridge. A. J. Meyers. II diags Ry Age 60:1143-5 My 26 '16
- South cantilever arm of Quebec bridge completed. A. J. Meyers. II diags Eng N 76: 298-305 Ag 17 '16
- Special steel and timber erection tower places heavy plate girders. II Eng Rec 73:354-5 Mr 11 '16
- Thrust of steel arch adjusted by end jacking. R. Kramer. diags Eng N 75:372 F 24 '16
- Viaduct 170 feet high erected without falsework by special steel struts. II diag Eng Rec 74:618-19 N 18 '16

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Fires

- Creosoted timber floor fire racks Missouri bridge. II Eng N 76:670-1 O 5 '16
- Fire wrecks bridge over Missouri river. II Eng Rec 74:453, 477 O 7-14 '16

Heat from burning timber floor warps steel of bridge over Missouri river at St. Charles, Mo. II Eng Rec 74:477 O 14 '16

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- Ballasted timber floor for the Sibley, Mo., bridge. diags Eng N 74:1156-7 D 16 '15
- Bridge floors. A. H. Fuller. II Good Roads n s 11:246 Je 3 '16
- Broken track stringers in bascule bridge lead to proposed new floor design. F. H. Avery. II diags Eng Rec 73:14-16 Ja 1 '16
- Distribution of loads on highway bridges with wooden floors. Eng & Contr 45:92 Ja 26 '16
- Gravel cover on bridge floors must be carefully spread. Eng N 76:330 Ag 17 '16
- Gravel covers on concrete bridge floors. F. H. Frankland. II Eng N 76:904-5 N 9 '16
- Heating materials for bridge paving in cold weather. C. B. Freeman. Eng & Contr 46: 275 S 27 '16
- Highway bridge floor is light and durable. E. E. Brandow. diag Eng Rec 73:746-7 Je 3 '16
- Highway bridge floors. C. M. Spofford. II diags Eng Soc W Pa 31:727-79; Discussion. 780-826 D '15
- Light wood floor for bridges. II diag Eng N 75:543 Mr 23 '16
- Pavement construction on Queensboro bridge, New York city. II diag Eng & Contr 45:591-2 Je 28 '16
- Queensboro bridge floor strengthened by adding stiffeners to buckle plates. II diag Eng Rec 73:670 My 20 '16
- Reaving a Milwaukee viaduct. II Munic J 41:124 Ag 3 '16
- Shallow railway floor on canal bascule bridge, Syracuse, N. Y. A. G. Hayden. II diags Eng N 76:545-7 S 21 '16
- Solid floors for through girder span. diags Ry Age 61:149-50 Ji 28 '16
- Test of concrete floor I-beam road bridge, Minnesota standards. diag Eng & Contr 46: 181-2 Ag 23 '16
- Vitrified tile underfloor protection for concrete bridges. diag Eng & Contr 46:182 Ag 23 '16
- Why put a gravel cover on the concrete floor of a bridge? Eng N 76:468-9 S 7 '16
- Wood floor construction for bascule bridges. diag Eng N 76:220-1 Ag 3 '16

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- Bridge piers built quickly by effective plant. II Eng N 76:899 N 9 '16
- Building concrete piers for Sciotoville bridge. II plan Eng N 75:418-19 Mr 2 '16
- Capping old bridge piers under railway traffic. II diags Eng N 76:703-4 O 12 '16
- Central bridge at Lawrence is built from four separate mixing plants. E. K. Cortright. II plan Eng Rec 74:415-17 S 30 '16
- Concrete railway trestles. diags Eng N 75:203 F 3 '16
- Construction progress on the Bloor street viaduct, Toronto, Canada. Eng & Contr 45:280-1 Mr 22 '16
- Deep bridge substructure, of the Interstate bridge, designed to reduce work under water, finished month ahead of time. F. M. Cortelyou. II diags plan Eng Rec 74:36-9 Ji 8 '16
- Design and construction of the substructure for a three-track trunnion bascule bridge in Chicago, Ill. II diags Eng & Contr 45:188-90 F 23 '16
- Foundation work on the Metropolis bridge. II diags Ry Age 61:399-402 S 8 '16
- Foundations for Dayton bridge finished in four months despite four floods. II Eng Rec 73:548-9 Ap 22 '16
- Large bridge pier construction using steel forms. II Eng & Contr 46:90-1 Ji 26 '16
- Little Scioto viaduct founded on clay, piles and rock. H. B. Watters. diags Eng N 75:174 Ja 27 '16
- Methods and cost of constructing a small bridge pier in the Potomac river. E. Vandevanter. II diag Eng & Contr 45:474-6 My 24 '16
- Railroad bridge at Milton, Pa., piers built both ways from central plant on island. II Eng Rec 73:676-7 My 20 '16

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Sinking a cylinder pier by open dredging. *Il* Eng N 74:1274 D 30 '15

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Reconstruction

Charing Cross bridge. *Il* diags Engineer 121:550-1; 122:8-9 Je 30-Jl 7 '16

Cheap devices used in reconstructing truss bridges eliminate costly centering. E. J. Doyle. *Il* diags Eng Rec 74:52-4 Jl 8 '16

New Susquehanna river bridge at Harrisburg. *Il* diags Ry Age 60:501-3 Mr 17 '16

Reconstruction of Allegheny river bridge begun. *Il* diags Eng Rec 73:744 Je 3 '16

Reconstruction of Mississippi river bridge at Keokuk. *Il* diags Eng N 75:690-3 Ap 13 '16

Reconstruction of notable large bridges. Eng N 76:92 Jl 13 '16

Reconstruction of the Keokuk bridge. *Il* diags Ry Age 61:97-100 Jl 21 '16

Reconstruction of the Ohio connecting bridge. *Il* diags Ry Age 60:311-14 F 18 '16

Strengthening the Cairo bridge on Illinois Central R. R. *Il* diags Eng N 75:448-9 Mr 9 '16

Susquehanna concrete viaduct built in halves. *Il* diags Eng N 75:537-40 Mr 23 '16

Trusses changed for girders without falsework. C. L. Ketcham. *Il* Eng Rec 74:422 S 30 '16

Wrecked bridge span 260 feet long replaced in 13 days by girders on pile piers. *Il* Eng Rec 74:170-1 Ag 5 '16

See also Bridge moving; Bridges—Repair

Removal

Abandoned bridge difficult to destroy. J. H. Weatherford. *Il* diags Eng Rec 74:132-4 Jl 29 '16

Demolishing old steel bridge and handling heavy girders. S. O. Steere. *Il* Eng N 76:316 Ag 17 '16

Half of long steel viaduct at Cleveland wrecked in seven days. *Il* diags Eng Rec 73:326-7 Mr 4 '16

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Repair

Bridge-track repairs. Sixth street bridge, Pittsburgh. *Il* diags Eng N 75:612 Mr 30 '16

Concrete arch rib supported while section is cut out. *Il* diags Eng Rec 74:225 Ag 19 '16

Jacking concrete-slab bridge into place after failure. *Il* Eng N 76:900 N 9 '16

Jacking up Riverside Drive viaduct; buckling columns give trouble. *Il* diags Eng N 76:869-73 N 9 '16

Old iron bridge, Dixon, Ill., damaged by electric car. *Il* diags Eng N 76:357 Ag 24 '16

Settled columns of big New York viaduct raised. *Il* Eng Rec 74:553 N 4 '16

Strengthening an alley bridge. Eng N 76:659 O 5 '16

See also Bridges—Reconstruction

Specifications

Howe truss highway bridge with composite chord. *Il* diags Eng N 76:559-60 S 21 '16

Log truss highway bridges, Utah road standards. *Il* diags Eng N 75:1238 Je 29 '16

Utah road engineers adopt short-span standard. E. R. Morgan. Eng Rec 74:175 Ag 5 '16

Bridges, Arched

Arch centers suspended from old plate girders. *Il* diags Eng N 76:846-7 N 2 '16

Arch viaduct of nickel steel spanning 285 ft. *Il* diags Eng N 75:734-5 Ap 20 '16

Bensalem avenue concrete arch bridge, Philadelphia, Pa. J. Jones. *Il* diags Eng & Contr 46:91-3 Jl 26 '16

Bloor-street viaduct, Toronto. *Il* map Engineer 122:394, 398-9 N 3 '16

Design of a 242-ft. arch span over the Pit river in Shasta county, California. *Il* diags Eng & Contr 44:459-60 D 15 '15

Detroit-Superior 591-foot steel arch successfully swung by toggle adjustment. *Il* Eng Rec 72:790-1 D 25 '15

Economical section for short span, reinforced arches carrying light highway loadings. C. B. McCullough. *Il* diags Eng & Contr 46:93-4 Jl 26 '16

Erection of an arch on suspended centering of reinforced concrete. *Il* diags Engineer 121:134 F 11 '16; Same cond. Eng Rec 73:389-90 Mr 18 '16

Erection of Old Trails bridge over Colorado river. J. A. Sourwine. *Il* diags Eng N 75:1040-3 Je 1 '16

Four-span steel-arch bridge at Indianapolis, Ind. *Il* diags Eng N 75:596-8 Mr 30 '16

Graphical analysis of arches with fixed ends greatly simplified. C. S. Whitney. Eng Rec 72:324-6 S 11 '15; Correction. 72:798 D 25 '15

Hell Gate bridge, New York. *Il* diags map Engineer 120:495-7 N 26 '15

Hell Gate bridge of the New York connecting railroad. Arch & Bldg 48:170-2, pl 60-1 N '16

Highest arch highway viaduct of striking appearance economically constructed near Akron, Ohio. *Il* diags Eng Rec 73:210-12 F 12 '16

Little plant required to complete 4000-foot concrete railroad bridge at Harrisburg, Pa. *Il* diags Eng Rec 74:340-2 S 16 '16

Long-span steel-arch bridge across Colorado river. *Il* Eng N 75:672-3 Ap 6 '16

Masonry arch makes a cheap highway bridge. R. Fletcher. *Il* Eng N 76:368 Ag 24 '16

Methods and equipment used in erection of Hell Gate arch over East river, New York city. W. J. Parsons. *Il* diags Eng & Contr 45:77-80 Ja 26 '16

New bridge over the Ribble at Preston. *Il* diags map Engineer 121:147-8, 154 F 18 '16

Novel method of erection adopted in raising longest highway arch span at Topock, Ariz. *Il* diags Eng Rec 74:580-1 N 11 '16

Pennsylvania railroad bridge at Phoenixville. *Il* Ry Age 60:1321-2 Je 16 '16

Pitt river reinforced-concrete arch in California. *Il* diags plans Eng N 75:1209-11 Je 29 '16

Reinforced-concrete arch has masonry facing. *Il* diags Eng Rec 74:327 S 9 '16

Reversible falls, St. John river, steel-arch bridge of 565-ft. span. *Il* diags Eng N 75:777-9 Ap 27 '16

Theory and tests presented for design of sand boxes to lower arch centers. F. P. McKibben. *Il* diags Eng Rec 74:530-2 O 28 '16

Three-hinge arch highway bridge Rochester, N. H., built in place at low cost. E. N. Sheffield. *Il* diags Concrete 9:45-6 Ag '16

Thrust of steel arch adjusted by end jacking. R. Kramer. *Il* diags Eng N 75:372 F 24 '16

2,223-ft. concrete-arch bridge built on reverse curve. A. M. Richter. *Il* diags plans Eng N 74:1268-72 D 30 '15

Bridges, Bascule

Bascule-bridge end lock. *Il* diags Eng N 75:395 Mr 2 '16

Bascule bridge for highway service in California. *Il* Eng Rec 74:647 N 25 '16

Bridges, Bascule—Continued

- Bascule bridge of Chicago & Northwestern Ry. replaces old swing bridge at Chicago. *Il Eng N 76:284 Ag 10 '16*
- Bascule bridge of short span over the Ecorse river. *Il diags Eng N 75:260-1 F 10 '16*
- Bascule bridge, Port Arthur, Tex., survives blow from steamer. *Il Eng Rec 74:229 Ag 19 '16*
- Concrete counterweights for bascule bridge. *Il Concrete 9:117 O '16*
- Controller for bascule bridge. *diag Elec R & W Elec'n 68:1086-7 Je 10 '16*
- Defective bascule bridge. *Eng N 76:743 O 19 '16*
- Design and construction of the substructure for a three-track trunnion bascule bridge in Chicago, Ill. *Il diags Eng & Contr 45:188-90 F 23 '16*
- Double-deck trunnion bascule bridge put into use. *Il Eng Rec 73:418 Mr 25 '16*
- Erecting a bascule bridge. *diag Eng N 75:29-30 Ja 6 '16*
- First double deck bascule bridge, Chicago. *Munic J 40:374 Mr 16 '16*
- Installation of cables and control switches for motors operating bascule bridge over ship canal. *J. G. Koppel. Il Elec W 68:27 Jl 1 '16*
- Lubricated trunnion pin for bascule bridge. *C. P. Wiweke. diags Eng N 75:803-4 Ap 27 '16*
- New bridge of the Chicago & Northwestern Ry. over the north branch of the Chicago river. *Il diags plan Ry R 59:203-6 Ag 12 '16*
- New three-track bascule bridge at Chicago. *Il diags Ry Age 61:233-6 Ag 11 '16*
- Putting a bascule bridge into service over the Chicago river at Lake street. *diags Eng N 75:756 Ap 20 '16*
- Renewing a drawbridge across the Chicago river. *Il Eng N 74:1267 D 30 '15*
- Shallow railway floor on canal bascule bridge, Syracuse, N. Y. *A. G. Hayden. Il diags Eng N 76:545-7 S 21 '16*
- Steel cantilever ribs balanced over main piers to form arched concrete spans. *Il diags Eng Rec 73:677-9 My 20 '16*
- Temporary bascule bridge for construction purposes. *H. DaCamara. Il diags Eng N 76:31-2 Jl 6 '16*
- Temporary wooden bascule bridge. *W. F. Schaphorst. Il Eng & Contr 46:369 O 25 '16*
- Wood floor construction for bascule bridges. *diag Eng N 76:220-1 Ag 3 '16*
- Bridges, Cantilever**
- Another Quebec bridge disaster. *Eng Rec 74:338-9 S 16 '16*
- Breakage of casting of rocker-joint bearing responsible for Quebec bridge disaster. *Il diags Eng Rec 74:370-1 S 23 '16*
- Cantilever bridge at Cernavoda, Roumania. *Il diags Eng N 76:861-2 N 2 '16*
- Cause of the Quebec bridge disaster. *Il diags Ry Age 61:487-92 S 22 '16*
- Erection of Quebec bridge—programme for season 1916. *diags Engineer 121:496-7 Je 16 '16*
- Erection of Quebec bridge suspended span. *A. J. Meyers. Il diag Eng N 76:522-4 S 14 '16*
- Erection of the south cantilever arm of the new Quebec bridge. *diags Engineer 122:363-4, 387-8 O 27-N 3 '16*
- Erection of the suspended span new Quebec bridge. *G. V. Davies and N. C. McMath. Il diag Eng & Contr 46:276-8 S 27 '16*
- Erection progress on the Quebec bridge. *A. J. Meyers. Il diags Ry Age 61:275-7 Ag 18 '16*
- Full evidence on the fall of the Quebec bridge span. *Il diags Eng N 76:572-5 S 21 '16*; Same cond. *Ry R 59:408-11 S 23 '16*
- Great variety in design reduces cost of new Portland harbor bridge. *Il diags Eng Rec 73:319-22 Mr 4 '16*
- New Quebec bridge. *A. J. Meyers. Il diag Sci Am 114:480-1+ My 6 '16*
- Plate-girder cantilever bridge. *A. G. Hayden. Il diags Eng N 76:266-7 Ag 10 '16*
- Quebec bridge. *H. A. Pidgeon. Il Sibley J 31:39-42 N '16*
- Quebec bridge accident. *Il diag Engineer 122:232-3, 236 S 15 '16*
- Quebec bridge erection; progress in 1915. *H. P. Borden. Il Eng N 75:20-2 Ja 6 '16*
- Quebec bridge suspended span falls into river in hoisting. *Il Eng N 76:524-8 S 14 '16*
- Quebec suspended-span hoisting details completed. *A. J. Meyers. Il diags Eng N 76:420-5 Ag 31 '16*
- Revolutionary methods used to float and hoist center span of Quebec bridge. *Il diags Eng Rec 74:372-6 S 23 '16*
- South cantilever arm of Quebec bridge completed. *A. J. Meyers. Il diags Eng N 76:298-305 Ag 17 '16*
- Story of the Quebec bridge disaster. *H. F. Stratton. Il Iron Tr R 59:685-8 O 5 '16*
- Suspended span of new Quebec bridge falls into river while being hoisted. *Il diags Eng Rec 74:363-6 S 16 '16*
- Bridges, Concrete**
- Abandoned bridge difficult to destroy. *J. H. Weatherford. Il diag Eng Rec 74:132-4 Jl 29 '16*
- Appearance of Brooklyn-Brighton viaduct, Cleveland, improved by special features. *Il diags Eng Rec 73:832-3 Je 24 '16*
- Arch centers suspended from old plate girders. *Il diag Eng N 76:846-7 N 2 '16*
- Arroyo Seco reinforced concrete bridge near Pasadena, Cal. *C. A. Byers. Il Concrete 8:203-5 My '16*
- Bensalem avenue concrete arch bridge, Philadelphia, Pa. *J. Jones. Il diag Eng & Contr 46:91-3 Jl 26 '16*
- Bridge near Rock Rapids, Ia., considered the oldest concrete arch bridge in America. *Il Concrete 8:268 Je '16*
- Brooklyn-Brighton concrete viaduct completed. *W. H. Baker. Il Eng N 75:489-90 Mr 16 '16*
- Building second half of the Susquehanna bridge. *Il Eng N 76:764-6 O 19 '16*
- Calgary's Center street bridge. *W. E. Hardenburg. Il diag Munic J 40:543-4 Ap 20 '16*
- Central bridge at Lawrence is built from four separate mixing plants. *E. K. Cortright. Il plan Eng Rec 74:415-17 S 30 '16*
- Chattanooga bridge falsework swept away by flood. *Eng N 74:1291 D 30 '15*
- Chicago track-elevation bridges of Illinois Central R. R. *diags Eng N 75:600-3 Mr 30 '16*
- Completion of Calcasieu river bridge; Lake Charles, La. *Il Eng N 76:865 N 2 '16*
- Concrete arch rib supported while section is cut out. *diag Eng Rec 74:225 Ag 19 '16*
- Concrete bridge completed from suspended forms. *F. R. Goodman. Il diag Eng N 76:786-7 O 26 '16*
- Concrete bridges and viaducts of Cincinnati, Ohio. *F. L. Raschig. Il Eng & Contr 45:263-6 Mr 15 '16*
- Concrete side-hill viaduct for a brick highway. *diags Eng N 76:352 Ag 24 '16*
- Concrete viaduct versus fill for street elevation. *diags Eng N 75:1176-7 Je 22 '16*
- Concrete viaduct with special expansion provisions. *C. W. Martin. Il diags Eng N 75:1078-80 Je 8 '16*
- Concreting plant for construction of Rosalla, Wash., bridges of C. M. & St. P. Ry. *plan Eng & Contr 46:455-6 N 22 '16*
- Construction features of a reinforced concrete bridge at Ft. Wayne, Ind. *C. B. Freeman. Il diags Concrete 9:77-81 S '16*
- Construction methods on viaducts of the Lackawanna railroad over Tunkhannock and Martins creeks. *C. W. Simpson. Il Munic Eng 50:94-8 Mr '16*
- Construction of two concrete arch bridges at Rosalla, Wash. *J. F. Pinson. Il diags Ry R 59:647-8 N 11 '16*
- Construction of Washington street arch bridge at Indianapolis. *plan Eng N 74:1142-4 D 9 '16*
- Corpus Christi causeway contains 2300 feet of reinforced-concrete girder spans. *T. Bartlett. Il diags map Eng Rec 73:390-2 Mr 18 '16*
- Design and construction of a high-level reinforced concrete highway bridge across the Skurusund, in Sweden. *Il Eng & Contr 45:343-4 Ap 12 '16*
- Design and construction of a through-arch reinforced concrete bridge at Kristianstad, Sweden, with comparative data on the design of the Lyons Falls bridge in New York. *A. M. Wolf. diags Eng & Contr 45:457-9 My 17 '16*

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- Design of a curved chord reinforced concrete highway bridge at Lyons Falls, N. Y. diags Eng & Contr 45:160-1 F 16 '16
- Design of a 242-ft. arch span over the Pit river in Shasta county, California. diags Eng & Contr 44:459-60 D 15 '15
- Design of Bensalem avenue bridge, Philadelphia, governed by architectural requirements of site. J. Jones. il diags Eng Rec 74:504-5 O 21 '16
- Design of the Massachusetts street bridge over the Kansas river at Lawrence, Kansas. diags Eng & Contr 45:35-9 Ja 12 '16
- Difficult falsework erection for 242-ft. concrete arch over the Pit river. il diags Eng N 75:50-1 Ja 13 '16
- Economical section for short span, reinforced arches carrying light highway loadings. C. B. McCullough. diag Eng & Contr 46:93-4 J1 26 '16
- Erection of an arch on suspended centering of reinforced concrete. il diags Engineer 121: 132, 134 F 11 '16; Same cond. Eng Rec 73: 389-90 Mr 18 '16
- Experience and costs in making concrete-bridge units. H. M. Holmes. il diags Eng N 75:825-7 My 4 '16
- Flat-slab highway bridges; Ohio standards. Eng N 75:347 My 18 '16
- Flat slab used at Lackawanna South Orange crossing. il diags plan Eng N 75:526-9 Mr 16 '16
- 4,700 ft. concrete bridge between Charlotte Harbor and Punta Gorda, Fla. diags Eng & Contr 46:455 N 22 '16
- Half-mile double-deck concrete bridge in Cleveland, Ohio. il Sci Am 114:403 Ap 15 '16
- Highest arch highway viaduct of striking appearance economically constructed near Akron, Ohio. il diags Eng Rec 73:210-12 F 12 '16
- Hopple street viaduct, Cincinnati, is built with cantilever beams of arch form. E. K. Ruth. il diags Eng Rec 74:381-4 S 23 '16
- Is the three-hinge concrete bridge a good type for moderate spans? il Concrete 9:132-3 O '16
- Lackawanna improvements at South Orange. A. B. Cohen. il diag plan Ry Age 60:683-7 Mr 24 '16
- Little plant required to complete 4000-foot concrete railroad bridge at Harrisburg, Pa. il diag Eng Rec 74:340-2 S 16 '16
- Methods and equipment used in constructing a reinforced concrete viaduct at Danville, Ill. N. B. Garver. il diag Eng & Contr 45:134-5 F 9 '16
- Mission bridge in Canadian Northwest designed as adornment to its location. J. F. Greene. il Eng Rec 74:205-6 Ag 12 '16
- Motor trucks distribute materials within the job. il plan Eng Rec 74:347-9 S 16 '16
- New Susquehanna river bridge at Harrisburg. il diags Ry Age 60:501-3 Mr 17 '16
- New type of bridge for ditch crossings. diag Concrete 9:59 Ag '16
- Novel construction features of Cincinnati concrete bridge. E. K. Ruth. il Eng N 75:659-61 Ap 6 '16
- Novel reinforced concrete sewer viaduct. F. C. Perkins. il Eng & Contr 46:410 N 8 '16
- Oldest concrete bridge, Golden Gate park, San Francisco. il Concrete 9:69-70 Ag '16
- 160-ft. wide bridge, Des Moines, Ia., and some notes on the construction plant. il Eng & Contr 46:454 N 22 '16
- Overflow bridges—types of overflow bridges used in McLennan county, Texas. W. C. Davidson. il diags Eng & Contr 46:176-80 Ag 23 '16
- Pitt river reinforced-concrete arch in California. il diags plans Eng N 75:1209-11 Je 29 '16
- Pressed-steel floor forms left in place on two-mile bridge at St. Louis eliminate carpenters. il Eng Rec 73:760-2 Je 10 '16
- Q street bridge at Washington. il diags Eng N 75:1-3 Ja 6 '16
- Queens boulevard viaduct, New York elevated line. A. M. Wyman. il diags Ry R 59:111-16 J1 22 '16
- Raising settled bent of heavy concrete viaduct. il diags Eng N 76:221 Ag 3 '16
- Reinforced-concrete arch has masonry facing. il diag Eng Rec 74:327 S 9 '16

- Reinforced concrete slab railroad bridge with skeleton piers and cantilever abutments at Hallstead, Pa. A. M. Wolf. il diag Concrete 8:232 My '16
- Reinforced-concrete street viaduct at Denver, Colo. il diags Eng N 75:166-9 Ja 27 '16
- Repairing concrete bridge at Asheville, N. C. C. H. Neal. il Concrete 8:210 My '16
- Replacing water-main bridge with concrete arch in Washington, D. C. il diags Eng N 74:1153-4 D 16 '15
- Shortening the Lackawanna railroad. il (supp) diag Engineer 121:229-30 Mr 17 '16
- Simple type of concrete bridge for grade crossings. C. W. Martin. il diags Eng N 75:408-10 Mr 2 '16
- Slab-deck concrete railway bridge over highway. diags Eng N 76:1002-3 N 23 '16
- Soo terminal type o. station, being built by Lackawanna at South Orange, nears completion. il diags plan Eng Rec 73:378-81 Mr 18 '16
- Special plant layout expedites construction of Brooklyn-Brighton viaduct. il plan Eng Rec 74:11-12 J1 1 '16
- Standard plans for I-beam and concrete bridges. il diags Eng N 76:471 S 7 '16
- Steel cantilever ribs balanced over main piers to form arched concrete spans. il diags Eng Rec 73:677-9 My 20 '16
- Surface treatment of Picaza bridge, Argentine. A. A. Agramonte. Concrete 8:160 Ap '16
- Susquehanna concrete viaduct built in halves. il diags Eng N 75:537-40 Mr 23 '16
- Test of new type reinforced-concrete bridge. il diags Eng N 76:620-1 S 28 '16
- Theory and tests presented for design of sand boxes to lower arch centers. F. P. McKibben. il diag Eng Rec 74:530-2 O 28 '16
- Three-hinge arch highway bridge Rochester, N. H., built in place at low cost. E. N. Sheffield. il diags Concrete 9:45-6 Ag '16
- Three-hinged concrete bridge, San Diego, falls by undermining. diag Eng N 75:292 F 10 '16
- Track depression project at Minneapolis. C. N. Bainbridge. il diags Ry Age 59:1059-63 D 3 '15
- Two large concrete viaducts on the St. Paul. il diags Ry Age 60:241-3 F 11 '16
- 2,223-ft. concrete-arch bridge built on reverse curve. A. M. Richter. il diags plans Eng N 74:1268-72 D 30 '15
- Valley crossing requires low-level bridge at Pasadena, Cal. il Eng N 75:170 Ja 27 '16
- Waterproofing the Lackawanna railroad's new viaducts. G. J. Ray. diags Eng N 75:430 Mr 2 '16; Same. Ry R 58:401-2 Mr 18 '16; Same. Eng Rec 73:588 Ap 29 '16
- Well-balanced mixing plants pour dense concrete from high towers on long highway bridge. il diags Eng Rec 73:632-4 My 13 '16
- See also Trestles, Concrete

Bridges, Iron and steel

- Bridge building in the shop; how the gigantic members of the Quebec bridge are fabricated. il Sci Am 115:192-3 Ag 26 '16
- Cleveland's new bridge—the rôle of the motor truck in its construction. il Sci Am 115:480 N 25 '16
- Corroded metal found in old truss bridge. J. H. Weatherford. il Eng Rec 74:464 O 14 '16
- Cost and details of construction of a steel highway bridge, McLennan co., Tex. W. C. Davidson. il diags Eng & Contr 46:365-8 O 25 '16
- Details of old iron viaduct, Cincinnati, in service 37 years. E. K. Ruth. il diags Eng N 75:936-7 My 18 '16
- Long-span steel-arch bridge across Colorado river. il Eng N 75:672-3 Ap 6 '16
- Normanskill viaduct; a second Popolopen case. W. H. Yates. il diags plan Eng N 74:1286-7 D 30 '15
- Notable engineering work; viaduct at Lethbridge, on the Canadian Pacific railway. il Sci Am S 81:261 Ap 22 '16
- Novel method of erection adopted in raising longest highway arch span at Topock, Ariz. il diags Eng Rec 74:580-1 N 11 '16
- Popolopen steel arch in the Hudson highlands. il Eng N 76:337-8 Ag 24 '16

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- Progress on the erection of the new Quebec bridge. H. P. Borden. *Il Ry Age* 59:1189-91 D 24 '15
 Quebec bridge erection; progress in 1915. H. P. Borden. *Il Eng N* 75:20-2 Ja 6 '16
 Record-breaking plate girders for Nickel Plate R. R. *Il diags Eng N* 74:1105-7 D 9 '15
 Special steel and timber erection tower places heavy plate girders. *Il Eng Rec* 73:354-5 Mr 11 '16
 Use of steel highway bridges in Iowa. J. H. Ames. *Eng & Contr* 44:492-3 D 29 '15
 Viaduct 170 feet high erected without false-work by special steel struts. *Il diag Eng Rec* 74:618-19 N 18 '16
 Wind damages highway bridge over Kankakee river. C. Older. *Il Eng Rec* 74:344-5 S 16 '16; Same cond. *Eng N* 75:638-9 O 5 '16

Protection

- Asbestos sheathing protects steel overhead bridge. *diag Eng Rec* 74:656 N 25 '16
 Protecting steel viaducts with concrete. W. C. Parsons. *Il Concrete* 8:206 My '16

Bridges, Lift

- Bridge over the Arkansas river near Pine Bluff. *Il diags Ry Age* 60:53-5 Ja 14 '16
 Electrically operated lift bridge, Pine Bluff, Ark. F. C. Perkins. *Il Eng & Contr* 46:276 S 27 '16
 Heavy Scherzer rolling-lift bridge carries railway and highway traffic. *Eng Rec* 74:170 Ag 5 '16
 Lift bridges at a freight platform. *Il diag Ry Age* 61:111-12 J1 21 '16
 Pine Bluff, Ark., vertical-lift span suspended by chains. *Il diags Eng N* 75:402-6 Mr 2 '16

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Bridges, Pontoon. See Pontoon bridges**Bridges, Railroad**

- Advanced bridge deck construction. *Il diags Ry Age* 60:511 Mr 17 '16
 Ballasted timber floor for the Sibley, Mo., bridge. *diags Eng N* 74:1156-7 D 16 '15
 Bridge across the Ohio river at Metropolis, Ill. *Il Ry R* 59:38-40 J1 8 '16
 Construction methods on viaducts of the Lackawanna railroad over Tunkhannock and Martins creeks. C. W. Simpson. *Il Munic Eng* 50:94-8 Mr '16
 Construction of two concrete arch bridges at Rosalia, Wash. J. F. Pinson. *Il diags Ry R* 59:647-8 N 11 '16
 Design of a railway pontoon bridge. H. J. Hansen. *pls W Soc E J* 21:7-25 Ja '16; Excerpts. *Eng Rec* 72:704-5 D 4 '15; Discussion. *W Soc E J* 21:25-32 Ja '16
 Erecting long plate girders by tower traveler. *Il Eng N* 75:370-2 F 24 '16
 Girder bridge replaces truss over fast express tracks. *Il diags Eng Rec* 73:383-4 Mr 18 '16
 K-truss bridge of Santa Fe across Arkansas river. *diags Eng N* 76:104-6 J1 20 '16
 Locomotive impact tests. C. B. Young. *diag Ry Mech Eng* 90:288-9 Je '16
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 New bridge for the Bessemer & Lake Erie. *diags Ry Age* 60:944 Ap 28 '16
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 New Thames river bridge at New London, Conn. *diag Ry Age* 60:1588 Je 30 '16
 New three-track bascule bridge at Chicago. *Il diags Ry Age* 61:233-6 Ag 11 '16
 Notable engineering work; viaduct at Lethbridge, on the Canadian Pacific railway. *Il Sci Am S* 81:261 Ap 22 '16
 Ohio river bridge at Metropolis. *Il diags Ry Age* 60:1025-7 My 12 '16
 Pennsylvania railroad bridge at Phoenixville. *Il Ry Age* 60:1321-2 Je 16 '16
 Plate girders of record weight in Worcester viaduct. F. B. Freeman. *Il diags Eng N* 75:1065-9 Je 8 '16
 Railway bridge over Ohio at Metropolis, Ill. *diags Eng N* 76:151-4 J1 27 '16
 Raising a three-span bridge under traffic. *Il diags Ry Age* 60:318-20 F 18 '16

Reconstruction of the Ohio connecting bridge. *Il diags Ry Age* 60:311-14 F 18 '16

Record-breaking plate girders for Nickel Plate R. R. *Il diags Eng N* 74:1105-7 D 9 '15

Slab-deck concrete railway bridge over highway. *diags Eng N* 76:1002-3 N 23 '16

Solid floors for through girder span. *diags Ry Age* 61:149-50 J1 28 '16

Soo terminal type of station, being built by Lackawanna at South Orange nears completion. *Il diags plan Eng Rec* 73:378-81 Mr 18 '16

Steel spans and concrete arches combined to form unusual bridge at Ninetieth street, Cleveland. *Il diags Eng Rec* 74:190-3 Ag 12 '16

Steel truss spans raised more than 6 feet without interruption to traffic. *Il diags Eng Rec* 73:807-8 Je 17 '16

Strengthening the Cairo bridge on Illinois Central R. R. *diags Eng N* 75:448-9 Mr 9 '16

Susquehanna concrete viaduct built in halves. *Il diags Eng N* 75:537-40 Mr 23 '16

Two large concrete viaducts on the St. Paul. *Il diags Ry Age* 60:241-3 F 11 '16

Wheel-load and impact charts for railway bridges. D. B. Steinman. *Eng N* 75:1173-6 Je 22 '16

See also Bridge inspection; Bridges, Bascule; Elevated railroads; Railroads—Track elevation; Trestles

Bridges, Suspension

Design features of the Dewey suspension bridge across the Grand river, near Dewey, Utah. *diags Eng & Contr* 44:429-31 D 1 '15

Parkersburg suspension bridge opened to traffic. *Il Eng N* 75:914-15 My 11 '16

Theory of displacements applied to analysis of suspension bridges. C. S. Whitney. *Eng Rec* 74:234-5 Ag 19 '16

Two early suspension bridges just taken down. *Il Eng N* 75:201-2 F 3 '16

Brier root

Use of brier roots in the making of pipes. *Sci Am* 115:44 J1 8 '16; Same. *Sci Am S* 82:23 J1 8 '16

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Cars, Armored

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Cars (derrick)

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New South Brooklyn pier at Thirty-fifth street is the longest in New York. *Il diags Eng Rec* 72:753-4 D 18 '15

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Cylinder pier foundations laid inside sheet-pile wells. C. S. Boardman. *Il diag plan Eng N* 76:289-93 Ag 17 '16

Cylinder-pier foundations of the Lincoln memorial. J. A. O'Connor. *Il diags Eng N* 75: 558-61 Mr 23 '16

Hydrated-lime mortar increases strength of brick piers. J. S. Macgregor. *Eng Rec* 74:165 Ag 5 '16

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Construction features and cost of pile-driver built for general use around water, Los Angeles, Cal. W. D. Jones. diag Eng & Contr 44:483-4 D 22 '15
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Pile driving. See Piles and pile driving**Pile pulling**

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 Inverted steam hammer pulls 35-ft. piles in 90 seconds each. II Eng Rec 72:769 D 18 '15
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- Shore end of Narrows siphon built in open trench, dredged to depth of 50 ft. *Il* *diags* Eng Rec 73:552-4 Ap 22 '16
- Special pilerdriver with adjustable leads. *Il* *diag* Eng N 76:463 S 7 '16
- Standing big pipe piles on end to cast tips. A. P. Crary. *diag* Eng Rec 73:27 Ja 1 '16
- Steam-hammer pile formulas; suggestions and queries. A. M. Knowles. Eng N 75:372-3 F 24 '16
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- Short cut in welding rolling mill pinions. *Il* *diags* Foundry 44:220-1 Je '16

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Pipe. See Pipes**Pipe bending**

- How to bend cast iron soil pipe. *Il* Dom Eng 73:303 D 4 '15
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- Pipe bending machine. E. A. Murray. *diag* Ry Mech Eng 90:321 Je '16
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- Making a special pipe bend for a hurry-up job. J. Koegle. *diags* Foundry 44:372 S '16

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- See also Pipe lines; Street openings; Water supply engineering

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See also Electrolytic corrosion; Gas pipes; Petroleum pipe lines; Pipe laying; Pipes; Steel; Piping; Steam pipes; Street openings; Water pipes; Water supply engineering

Pipe thawing. See Thawing**Pipe threading**

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Dangerous long screws. L. F. Lyne. *Il Power* 42:824 D 14 '15

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- Reservoir-capacity table. A. T. Clark. Eng N 75:467-8 Mr 9 '16

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